OUTPUT 12

```
MEM. STRG. USED   02576
01450  THRU  01464
10300  THRU  13060

LOK     INSTR        L1ID          L0

                      0        INT1A    PROG*1219B*FACT*OCT*67
                      1                 REMARK*1219B FACT MODIFIED FROM 1219 FACT
                      2                 REMARK*INTEGRATED COMMAND-ARITHMETIC TEST
01450   46 1462       3        INT1A    STRAU*INT1B
01451   44 1463       4                 STRAL*INT1C
01452   76 1500       5                 RJP*COMA
01453   10 1462       6                 ENTAU*INT1B
01454   12 1463       7                 ENTAL*INT1C

01455   30 1464      10                 IRJP*INT1D
01456   50 5620      11                 STOP*20
01457   10 1462      12                 ENTAU*INT1B
01460   12 1463      13                 ENTAL*INT1C
01461   34 1452      14                 JP*INT1A+2
01462   00 0000      15        INT1B    0*
01463   00 0000      16        INT1C    0*
01464   01 0277      17        INT1D    0*ARITH-1

                     20        ARITH    PROG*1219B*FACT*OCT*67
                     21                 REMARK*1219B FACT MODIFIED FROM 1219 FACT
                     22                 REMARK*ARITHMETIC TEST
10300   50 7201      23        ARITH    ENTICR*1                    SET FOR B1
10301   44 2366      24                 STRAL*ALPARM
10302   76 2770      25                 RJP*TYPE
10303   12 2366      26                 ENTAL*ALPARM
10304   65 0306      27                 JPALP*LOK+2

10305   76 3043      30                 RJP*IOSET
10306   50 5020      31                 SKP*20                      SET KEY 4 TO SUPPRESS OUTPUTS
10307   34 0311      32                 JP*LOK+2
10310   34 0321      33                 JP*ARITH1
```

```
10311  30 0312    34          TYPT*$CR$ARITHMETIC TEST
10312  01 2374
10313  76 4162
10314  51 6450
10315  55 4564
10316  51 4300
10317  64 4563
10320  64 7777
10321  76 0526    35    ARITH1  RJP*EXEC                  SET - GO TO THE TEST
10322  70 0001    36    MRACK   ENTALK*1                  COUNT 10 CYCLES
10323  14 0360    37          ADDAL*CNT                   UPDATE THE COUNT
10324  44 0360    40          STRAL*CNT
10325  02 0361    41          CMAL*NYMB                   FINISHED
10326  63 0321    42          JPNQT*ARITH1                NO
10327  40 0360    43          CL*CNT
10330  50 5020    44          SKP*20                      KEY 4, SET TO SUPPRESS TYPE-OUTS
10331  34 0333    45          JP*LOK+2
10332  34 0345    46          JP*MRACK1-1
10333  12 0363    47          ENTAL*EFLG                  CHECK ERROR FLAG
10334  63 0351    50          JPALNZ*RECYL
10335  30 0336    51          TYPT*$CR$OK, END CYCLES$CR$
10336  01 2374
10337  76 2053
10340  14 0045
10341  56 4400
10342  43 7143
10343  54 4563
10344  76 7777
10345  50 5602    52          STOP*2                      SET STOP KEY 1 FOR END OF TEST
10346  50 5004    53    MRACK1  SKP*04                      SET SKIP KEY 2 TO STAY IN ARITH
10347  55 0277    54          IJP*ARITH-1                 EXIT
10350  34 0321    55          JP*ARITH1                   RERUN TEST
10351  30 0352    56    RECYL   TYPT*$CR$RECYCLE
10352  01 2374
10353  76 6245
10354  )7143
```

```
10355  54 4577
10356  40 0363    57          CL*EFLG                  CLEAR THE ERROR FLAG
10357  34 0345    60          JP*MRACK1-1              CHECK FOR STOP KEY 1
10360  00 0000    61    CNT   0*0
10361  04 0000    62    NYMB  040000*                  NUMBER OF CYCLES
10362  00 0013    63    PRT   0*13                     PRINTER ENAGLE
10363  00 0000    64    EFLG  0*0                      ERROR FLAG
                   65    ERMSG PROG*MCMANUS*13JULY64
10364  00 0000    66    ERMSG 0*0                      ENTRY ERROR SUBROUTINE
10365  72 0435    67          STRICR*ERM1              SAVE MAIN TEST B
10366  50 7201    70          ENTICR*1                 SET FOR B1
10367  76 0440    71          RJP*MTITLE               PRINT TEST TITLE

10370  12 2354    72          ENTAL*FLAG+1
10371  63 0413    73          JPALNZ*NOCI              YES SKIP CORRECT INCORRECT
10372  12 2353    74          ENTAL*FLAG
10373  63 0413    75          JPALNZ*NOCI
10374  30 0375    76          TYPT*$CR$ERROR
10375  01 2374
10376  76 4562
10377  62 2062

10400  77 7777
10401  30 0402    77          TYPT*$CR$CORRECT   INCORRECT$CR$
10402  01 2374
10403  76 4320
10404  62 6245
10405  43 6400
10406  00 0051
10407  56 4320

10410  62 6245
10411  43 6476
10412  77 7777
10413  70 7777   100   NOCI  ENTALK*7777
10414  44 0363   101         STRAL*EFLG               SET THE ERROR FLAG
10415  30 0416   102         TYPC*PTN1* * * * * * *PTN2
10416  01 2630
10417  61 2367
```

```
10420  10 0000
10421  10 0000
10422  10 0000
10423  10 0000
10424  10 0000
10425  10 0000

10426  61 2370
10427  00 0000
10430  10 2367    103             ENTAU*PTN1
10431  12 2370    104             ENTAL*PTN2
10432  50 5604    105             STOP*4
10433  40 2367    106             CL*PTN1
10434  40 2370    107             CL*PTN2
10435  50 7200    110     ERM1    ENTICR*0                RESTORE MAIN TEST B

10436  55 0364    111             IJP*ERMSG               EXIT
10437  00 0000    112     PAT     0*0
           0000    113     MTITLE  PROG*MCMANUS*16JULY64
10440  00 0000    114     MTITLE  0*0                     TYPE TITLE S/R
10441  36 0012    115             ENTBK*12                SET B COUNT
10442  13 2353    116     TITLE1  ENTALB*FLAG             CHECK S/R FLAGES
10443  63 0446    117             JPALNZ*TITLE2
10444  73 0442    120             BJP*LOK-2               LOOP

10445  34 0464    121             JP*NOTYPE               HELP
10446  13 0465    122     TITLE2  ENTALB*MTEST            SET LIMITS FOR MESSAGE
10447  74 0452    123             STRADR*LIMIT
10450  71 0001    124             ADDALK*1
10451  74 0453    125             STRADR*LIMIT+1
10452  10 0000    126     LIMIT   ENTAU*0
10453  12 0000    127             ENTAL*0
10454  46 0460    130             STRAU*LIMIT1+2

10455  44 0461    131             STRAL*LIMIT1+3
10456  30 0457    132     LIMIT1  TYPT*XXXXXX
10457  01 2374
10460  70 7070
10461  70 7070
10462  77 7777
10463  ( ) 0437   133             ENTB*PAT                CLEAR B
```

```
10464  55 0440   134    NOTYPE  IJP*MTITLE                    EXIT
10465  01 0524   135    MTEST   0*TDVT
10466  01 0522   136            0*TDIV
10467  01 0520   137            0*TMUL
10470  01 0516   140            0*TADD
10471  01 0514   141            0*TCPAL
10472  01 0512   142            0*TKT

10473  01 0510   143            0*TADER
10474  01 0506   144            0*TRSAL
10475  01 0504   145            0*TLSAL
10476  01 0502   146            0*TALT
10477  01 0500   147            0*TAUT
10500  76 4165   150    TAUT    764165*                       CR/LF/A
10501  64 0000   151            640000*                       U/T/SP
10502  76 4154   152    TALT    764154*                       CR/LF/A

10503  64 0000   153            640000*                       L/T/SP
10504  76 5463   154    TLSAL   765463*                       CR/LF/L
10505  41 5400   155            415400*                       S/A/L
10506  76 6263   156    TRSAL   766263*                       CR/LF/R
10507  41 5400   157            415400*                       S/A/L
10510  76 4144   160    TADER   764144*                       CR/LF/A
10511  45 6200   161            456200*                       D/E/R
10512  76 5364   162    TKT     765364*                       CR/LF/K

10513  00 0000   163            000000*                       T/SP/SP
10514  76 4360   164    TCPAL   764360*                       CR/LF/C
10515  41 5400   165            415400*                       P/A/L
10516  76 4144   166    TADD    764144*                       CR/LF/A
10517  44 0000   167            440000*                       D/D/SP
10520  76 5565   170    TMUL    765565*                       CR/LF/M
10521  54 0000   171            540000*                       U/L/SP
10522  76 4451   172    TDIV    764451*                       CR/LF/D

10523  66 0000   173            660000*                       I/V/SP
10524  76 4466   174    TDVT    764466*                       CR/LF/D
10525  64 0000   175            640000*                       V/T/SP
                 176    EXEC    PROG*DARFWS*1FEB63
                 177            REMARK*THIS ROUTINE IS THE EXEC FOR THE ARITHMETIC TEST
```

11022 LSAU

SHEET 628 REVISION B
SB-10163

```
                    200             SETADR*1137

10526  00 0000      201     EXEC    0*0             ENTRANCE
10527  70 7777      202             ENTALK*7777
10530  44 2365      203             STRAL*FLAG+12
10531  76 0650      204             RJP*AUT         TEST ENTER AU
10532  50 5001      205             SKP*1           KEY 0 NOT SET CONTINUE
10533  34 0535      206             JP*LOK+2
10534  34 0531      207             JP*LOK-3        REPEAT THIS SUB
10535  40 2365      210             CL*FLAG+12

10536  70 7777      211             ENTALK*7777
10537  44 2364      212             STRAL*FLAG+11
10540  76 0717      213             RJP*ALT         TEST ENTER AL
10541  50 5001      214             SKP*1           KEY 0 CONTINUE
10542  34 0544      215             JP*LOK+2
10543  34 0540      216             JP*LOK-3        REPEAT
10544  40 2364      217             CL*FLAG+11
10545  70 7777      220             ENTALK*7777

10546  44 2363      221             STRAL*FLAG+10
10547  76 0757      222             RJP*LSAL        TEST LEFT SHIFT
10550  50 5001      223             SKP*1           KEY 0 CONTINUE
10551  34 0553      224             JP*LOK+2
10552  34 0547      225             JP*LOK-3
10553  40 2363      226             CL*FLAG+10
10554  70 7777      227             ENTALK*7777
10555  44 2362      230             STRAL*FLAG+7

10556  76 1105      231             RJP*RSAL        TEST RIGHT SHIFT
10557  50 5001      232             SKP*1           KEY 0 CONTINUE
10560  34 0562      233             JP*LOK+2
10561  34 0556      234             JP*LOK-3
10562  40 2362      235             CL*FLAG+7
10563  70 7777      236             ENTALK*7777
10564  44 2361      237             STRAL*FLAG+6
10565  76 1237      240             RJP*ADER        TEST ADDER

10566  50 5001      241             SKP*1           KEY 0 CONTINUE
10567  34 0571      242             JP*LOK+2
10570  34 0565      243             JP*LOK-3
```

```
10571  40 2361    244          CL*FLAG+6
10572  70 7777    245          ENTALK*7777
10573  44 2360    246          STRAL*FLAG+5

10574  76 1450    247          RJP*KT          TEST SHIFT COUNTER
10575  50 5001    250          SKP*1           KEY 0 CONTINUE
10576  34 0600    251          JP*LOK+2
10577  34 0574    252          JP*LOK-3
10600  40 2360    253          CL*FLAG+5
10601  70 7777    254          ENTALK*7777
10602  44 2357    255          STRAL*FLAG+4
10603  76 1530    256          RJP*CPAL        TEST COMPLEMENT

10604  50 5001    257          SKP*1           KEY 0 CONTINUE
10605  34 0607    260          JP*LOK+2
10606  34 0603    261          JP*LOK-3
10607  40 2357    262          CL*FLAG+4
10610  70 7777    263          ENTALK*7777
10611  44 2356    264          STRAL*FLAG+3
10612  76 1661    265          RJP*ADD         TEST ADD A
10613  50 5001    266          SKP*1           KEY 0 CONTINUE

10614  34 0616    267          JP*LOK+2
10615  34 0612    270          JP*LOK-3
10616  40 2356    271          CL*FLAG+3
10617  70 7777    272          ENTALK*7777
10620  44 2355    273          STRAL*FLAG+2
10621  76 1716    274          RJP*MUL         TEST MULTIPLY
10622  50 5001    275          SKP*1           KEY 0 CONTINUE
10623  34 0625    276          JP*LOK+2

10624  34 0621    277          JP*LOK-3
10625  40 2355    300          CL*FLAG+2
10626  70 7777    301          ENTALK*7777
10627  44 2354    302          STRAL*FLAG+1
10630  44 2354    303          STRAL*FLAG+1
10631  76 1747    304          RJP*DIV         TEST DIVIDE
10632  50 5001    305          SKP*1           KEY 0 CONTINUE
10633  34 0635    306          JP*LOK+2

10634  34 0631    307          JP*LOK-3
```

```
10635  40 2354    310                CL*FLAG+1
10636  70 7777    311                ENTALK*7777
10637  44 2353    312                STRAL*FLAG
10640  76 2057    313                RJP*DVT                 DIVIDE TEST
10641  50 5001    314                SKP*1                   KEY 0 CONTINUE

10642  34 0644    315                JP*LOK+2
10643  34 0640    316                JP*LOK-3
10644  40 2353    317                CL*FLAG
10645  50 5002    320                SKP*2                   TEST EXIT KEY 1
10646  55 0526    321                IJP*EXEC                EXIT
10647  34 0527    322                JP*EXEC+1               CONTINUE CYCLING SUBTEST
                  323          AUT   PROG*DARFWS*1MAR63
                  324                SETADR*1205

10650  00 0000    325          AUT   0*0                     TEST AU
10651  10 2134    326                ENTAU*TPAT1             CLEAR AU
10652  46 2132    327                STRAU*TPCK              SAVE AU
10653  12 2132    330                ENTAL*TPCK              SET AL EQUAL AU
10654  02 2142    331                CMAL*TPAT2              IS AL CORRECT
10655  63 0707    332                JPNOT*AUT1              ERROR JUMP
10656  10 2135    333                ENTAU*TPAT1+1           SET AU TO 777777
10657  46 2132    334                STRAU*TPCK              SAVE AU

10660  12 2132    335                ENTAL*TPCK              SET AL EQUAL AU
10661  02 2143    336                CMAL*TPAT2+1            IS AL CORRECT
10662  63 0707    337                JPNOT*AUT1              ERROR JUMP
10663  10 2136    340                ENTAU*TPAT1+2           SET AU TO 252525
10664  46 2132    341                STRAU*TPCK              SAVE AU
10665  12 2132    342                ENTAL*TPCK              SET AL EQUAL AU
10666  02 2136    343                CMAL*TPAT1+2            IS AL CORRECT
10667  63 0707    344                JPNOT*AUT1              ERROR JUMP

10670  10 2137    345                ENTAU*TPAT1+3           SET AU TO 525252
10671  46 2132    346                STRAU*TPCK              SAVE AU
10672  12 2132    347                ENTAL*TPCK              SET AL EQUAL AU
10673  02 2137    350                CMAL*TPAT1+3            IS AL CORRECT
10674  63 0707    351                JPNOT*AUT1              ERROR JUMP
10675  10 2140    352                ENTAU*TPAT1+4           SET AU TO 707070
10676  46 2132    353                STRAU*TPCK              SAVE AU
10677  12 2132    354                ENTAL*TPCK              SET AL EQUAL AU
```

```
10700  02 2140   355          CMAL*TPAT1+4      IS AL CORRECT
10701  63 0707   356          JPNOT*AUT1        ERROR JUMP
10702  10 2141   357          ENTAU*TPAT1+5     SET AU TO 070707
10703  46 2132   360          STRAU*TPCK        SAVE AU
10704  12 2132   361          ENTAL*TPCK        SET AL EQUAL AU
10705  02 2141   362          CMAL*TPAT1+5      IS AL CORRECT

10706  61 0716   363          JPEQ*LOK+10       YES EXIT
10707  50 5601   364  AUT1    STOP*1            ERROR STOP
10710  50 5020   365          SKP*20
10711  34 0713   366          JP*LOK+2
10712  55 0650   367          IJP*AUT
10713  46 2367   370          STRAU*PTN1
10714  44 2370   371          STRAL*PTN2
10715  76 0364   372          RJP*ERMSG

10716  55 0650   373          IJP*AUT           EXIT
               374  ALT       PROG*DARFWS*1FEB63
               375            SETADR*1246
10717  00 0000   376  ALT     0*0               TEST AL
10720  10 2134   377          ENTAU*TPAT1       CORRECT TO AU
10721  12 2134   400          ENTAL*TPAT1       CLEAR AL
10722  63 0747   401          JPALNZ*ALT1       ERROR JUMP
10723  10 2135   402          ENTAU*TPAT1+1     CORRECT TO AU

10724  12 2135   403          ENTAL*TPAT1+1     SET AL TO 777777
10725  02 2143   404          CMAL*TPAT2+1      IS AL CORRECT
10726  63 0747   405          JPNOT*ALT1        ERROR JUMP
10727  10 2136   406          ENTAU*TPAT1+2     CORRECT TO AU
10730  12 2136   407          ENTAL*TPAT1+2     SET AL TO 252525
10731  02 2144   410          CMAL*TPAT2+2      IS AL CORRECT
10732  63 0747   411          JPNOT*ALT1        ERROR JUMP
10733  10 2137   412          ENTAU*TPAT1+3     CORRECT TO AU

10734  12 2137   413          ENTAL*TPAT1+3     SET AL TO 525252
10735  02 2145   414          CMAL*TPAT2+3      IS AL CORRECT
10736  63 0747   415          JPNOT*ALT1        ERROR JUMP
10737  10 2140   416          ENTAU*TPAT1+4     CORRECT TO AU
10740  12 2140   417          ENTAL*TPAT1+4     SET AL TO 707070
10741  02 2146   420          CMAL*TPAT2+4      IS AL CORRECT
```

```
10742  63 0747    421            JPNOT*ALT1          ERROR JUMP
10743  10 2141    422            ENTAU*TPAT1+5       CORRECT TO AU
10744  12 2141    423            ENTAL*TPAT1+5       SET AL TO 070707
10745  02 2147    424            CMAL*TPAT2+5        IS AL CORRECT
10746  61 0756    425            JPEQ*ALT1+7         YES EXIT
10747  50 5601    426   ALT1     STOP*1              ERROR STOP
10750  50 5020    427            SKP*20
10751  34 0753    430            JP*LOK+2

10752  55 0717    431            IJP*ALT
10753  46 2367    432            STRAU*PTN1
10754  44 2370    433            STRAL*PTN2
10755  76 0364    434            RJP*ERMSG
10756  55 0717    435            IJP*ALT             EXIT
               436   LSAL     PROG*DARFWS*1MAR63
               437            SETADR*1300
10757  00 0000    440   LSAL     0*0                 TEST LEFT SHIFTS

10760  12 2134    441            ENTAL*TPAT1         CLEAR AL
10761  50 4601    442            LSHAL*1             TEST SHIFT
10762  10 2142    443            ENTAU*TPAT2         CORRECT TO AU
10763  63 1013    444            JPALNZ*LSAL1        ERROR JUMP
10764  12 2135    445            ENTAL*TPAT1+1       SET AL TO 777777
10765  10 2143    446            ENTAU*TPAT2+1       CORRECT TO AU
10766  50 4601    447            LSHAL*1             TEST SHIFT
10767  02 2143    450            CMAL*TPAT2+1        IS AL CORRECT

10770  63 1013    451            JPNOT*LSAL1         ERROR JUMP
10771  12 2136    452            ENTAL*TPAT1+2       SET AL TO 252525
10772  10 2145    453            ENTAU*TPAT2+3       CORRECT TO AU
10773  50 4601    454            LSHAL*1             TEST SHIFT
10774  02 2145    455            CMAL*TPAT2+3        IS AL CORRECT
10775  63 1013    456            JPNOT*LSAL1         ERROR JUMP
10776  50 4601    457            LSHAL*1             TEST SHIFT
10777  10 2144    460            ENTAU*TPAT2+2       CORRECT TO AU

11000  02 2144    461            CMAL*TPAT2+2        IS AL CORRECT
11001  63 1013    462            JPNOT*LSAL1         ERROR JUMP
11002  12 2140    463            ENTAL*TPAT1+4       SET AL TO 707070
11003  10 2147    464            ENTAU*TPAT2+5       CORRECT TO AU
```

```
11004  50 4603   465          LSHAL*3          TEST SHIFT
11005  02 2147   466          CMAL*TPAT2+5     IS AL CORRECT

11006  63 1013   467          JPNOT*LSAL1      ERROR JUMP
11007  50 4603   470          LSHAL*3          TEST SHIFT
11010  10 2146   471          ENTAU*TPAT2+4    CORRECT TO AU
11011  02 2146   472          CMAL*TPAT2+4     IS AL CORRECT
11012  61 1022   473          JPEQ*LSAU        YES GO TO TEST AU
11013  50 5601   474  LSAL1   STOP*1           ERROR STOP
11014  50 5020   475          SKP*20
11015  34 1017   476          JP*LOK+2

11016  34 1022   477          JP*LSAU
11017  46 2367   500          STRAU*PTN1
11020  44 2370   501          STRAL*PTN2
11021  76 0364   502          RJP*ERMSG
11022  12 2145   503  LSAU    ENTAL*TPAT2+3    CORRECT TO AL 525252
11023  10 2136   504          ENTAU*TPAT1+2    SET AU TO 252525
11024  50 4501   505          LSHAU*1          TEST SHIFT
11025  06 2135   506          CMSK*TPAT1+1     IS AU CORRECT

11026  63 1044   507          JPNOT*LSAU1      ERROR JUMP
11027  12 2144   510          ENTAL*TPAT2+2    CORRECT TO AL 252525
11030  50 4501   511          LSHAU*1          TEST SHIFT
11031  06 2135   512          CMSK*TPAT1+1     IS AU CORRECT
11032  63 1044   513          JPNOT*LSAU1      ERROR JUMP
11033  10 2140   514          ENTAU*TPAT1+4    SET AU TO 707070
11034  12 2147   515          ENTAL*TPAT2+5    CORRECT TO AL
11035  50 4503   516          LSHAU*3          TEST SHIFT

11036  06 2135   517          CMSK*TPAT1+1     IS AU CORRECT
11037  63 1044   520          JPNOT*LSAU1      ERROR JUMP
11040  12 2146   521          ENTAL*TPAT2+4    CORRECT TO AL
11041  50 4503   522          LSHAU*3          TEST SHIFT
11042  06 2135   523          CMSK*TPAT1+1     IS AU CORRECT
11043  61 1053   524          JPEQ*LSA         YES GO TO TEST A
11044  50 5601   525  LSAU1   STOP*1           ERROR STOP
11045  50 5020   526          SKP*20

11046  34 1050   527          JP*LOK+2
11047  34 1053   530          JP*LSA
```

6K

```
11050  44 2367    531                STRAL*PTN1
11051  46 2370    532                STRAU*PTN2
11052  76 0364    533                RJP*ERMSG
11053  10 2134    534    LSA         ENTAU*TPAT1          CLEAR AU

11054  12 2134    535                ENTAL*TPAT1          CLEAR AL
11055  50 4701    536                LSHA*1               TEST SHIFT
11056  63 1075    537                JPALNZ*LSA1          IS AL CORRECT
11057  10 2136    540                ENTAU*TPAT1+2        SET AU TO 252525
11060  12 2136    541                ENTAL*TPAT1+2        SET AL TO 252525
11061  50 4701    542                LSHA*1               TEST SHIFT
11062  02 2145    543                CMAL*TPAT2+3         IS AL CORRECT
11063  63 1075    544                JPNOT*LSA1           ERROR JUMP

11064  06 2135    545                CMSK*TPAT1+1         IS AU CORRECT
11065  63 1075    546                JPNOT*LSA1           ERROR JUMP
11066  10 2140    547                ENTAU*TPAT1+4        SET AU TO 707070
11067  12 2140    550                ENTAL*TPAT1+4        SET AL TO 707070
11070  50 4703    551                LSHA*3               TEST SHIFT
11071  02 2147    552                CMAL*TPAT2+5         IS AL CORRECT
11072  63 1075    553                JPNOT*LSA1           ERROR JUMP
11073  06 2135    554                CMSK*TPAT1+1         IS AU CORRECT

11074  61 1104    555                JPEQ*LOK+10          YES EXIT
11075  50 5601    556    LSA1        STOP*1               ERROR STOP
11076  50 5020    557                SKP*20
11077  34 1101    560                JP*LOK+2
11100  55 0757    561                IJP*LSAL
11101  46 2367    562                STRAU*PTN1
11102  44 2370    563                STRAL*PTN2
11103  76 0364    564                RJP*ERMSG

11104  55 0757    565                IJP*LSAL             EXIT
               566    RSAL        PROG*DARFWS*1FEB63
               567                SETADR*1405
11105  00 0000    570    RSAL        0*0                  TEST RIGHT SHIFT
11106  10 2134    571                ENTAU*TPAT1          CORRECT TO AU
11107  12 2134    572                ENTAL*TPAT1          CLEAR AL
11110  50 4201    573                RSHAL*1              TEST SHIFT
11111  63 1131    574                JPALNZ*RSAL1         ERROR JUMP
```

```
11112  10 2135    575          ENTAU*TPAT1+1          CORRECT TO AU
11113  12 2135    576          ENTAL*TPAT1+1          SET AL TO 777777
11114  50 4201    577          RSHAL*1                TEST SHIFT
11115  02 2135    600          CMAL*TPAT1+1           IS AL CORRECT
11116  63 1131    601          JPNOT*RSAL1            ERROR JUMP
11117  10 2150    602          ENTAU*TPAT3            CORRECT TO AU

11120  12 2136    603          ENTAL*TPAT1+2          SET AL TO 252525
11121  50 4201    604          RSHAL*1                TEST SHIFT
11122  02 2150    605          CMAL*TPAT3             IS AL CORRECT
11123  63 1131    606          JPNOT*RSAL1            ERROR JUMP
11124  10 2151    607          ENTAU*TPAT3+1          CORRECT TO AU — 652525
11125  12 2137    610          ENTAL*TPAT1+3          SET AL TO 525252
11126  50 4201    611          RSHAL*1                TEST SHIFT
11127  02 2151    612          CMAL*TPAT3+1           IS AL CORRECT 652525

11130  61 1140    613          JPEQ*RSAU              YES GO TO TEST AU
11131  50 5601    614   RSAL1  STOP*1                 ERROR STOP
11132  50 5020    615          SKP*20
11133  34 1135    616          JP*LOK+2
11134  34 1140    617          JP*RSAU
11135  46 2367    620          STRAU*PTN1
11136  44 2370    621          STRAL*PTN2
11137  76 0364    622          RJP*ERMSG

11140  10 2134    623   RSAU   ENTAU*TPAT1            CLEAR AU
11141  12 2134    624          ENTAL*TPAT1            CORRECT TO AL
11142  50 4101    625          RSHAU*1                TEST SHIFT
11143  62 1163    626          JPAUNZ*RSAU1
11144  10 2135    627          ENTAU*TPAT1+1          SET AU TO 777777
11145  12 2135    630          ENTAL*TPAT1+1          CORRECT TO AL
11146  50 4101    631          RSHAU*1                TEST SHIFT
11147  06 2135    632          CMSK*TPAT1+1           IS AU CORRECT

11150  63 1163    633          JPNOT*RSAU1
11151  10 2136    634          ENTAU*TPAT1+2          SET AU TO 252525
11152  12 2150    635          ENTAL*TPAT3            CORRECT TO AL
11153  50 4101    636          RSHAU*1                TEST SHIFT
11154  06 2135    637          CMSK*TPAT1+1           IS AU CORRECT
11155  63 1163    640          JPNOT*RSAU1
11156  10 2137    641          ENTAU*TPAT1+3          SET AU TO 525252
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11157  12 2151   642          ENTAL*TPAT3+1          CORRECT TO AL
11160  50 4101   643          RSHAU*1                TEST SHIFT
11161  06 2135   644          CMSK*TPAT1+1           IS AU CORRECT
11162  61 1172   645          JPEQ*RSA               YES GO TO TEST A
11163  50 5601   646  RSAU1   STOP*1
11164  50 5020   647          SKP*20
11165  34 1167   650          JP*LOK+2

11166  34 1172   651          JP*RSA
11167  44 2367   652          STRAL*PTN1
11170  46 2370   653          STRAU*PTN2
11171  76 0364   654          RJP*ERMSG
11172  10 2134   655  RSA     ENTAU*TPAT1            CLEAR AU
11173  12 2134   656          ENTAL*TPAT1            CLEAR AL
11174  50 4301   657          RSHA*1                 TEST SHIFT
11175  63 1227   660          JPALNZ*RSA1            ERROR JUMP

11176  62 1227   661          JPAUNZ*RSA1            ERROR JUMP
11177  10 2135   662          ENTAU*TPAT1+1          SET AU TO 777777
11200  12 2135   663          ENTAL*TPAT1+1          SET AL TO 777777
11201  50 4301   664          RSHA*1                 TEST SHIFT
11202  02 2135   665          CMAL*TPAT1+1           IS AL CORRECT
11203  63 1227   666          JPNOT*RSA1             ERROR JUMP
11204  06 2135   667          CMSK*TPAT1+1           IS AU CORRECT
11205  63 1227   670          JPNOT*RSA1             ERROR JUMP

11206  10 2136   671          ENTAU*TPAT1+2          SET AU TO 252525
11207  12 2136   672          ENTAL*TPAT1+2          SET AL TO 252525
11210  50 4301   673          RSHA*1                 TEST SHIFT
11211  02 2145   674          CMAL*TPAT2+3           IS AL CORRECT
11212  63 1227   675          JPNOT*RSA1             ERROR JUMP
11213  50 4722   676          LSHA*22                EXCHANGE REGS
11214  02 2150   677          CMAL*TPAT3             IS AU CORRECT
11215  63 1226   700          JPNOT*RSA1-1           ERROR JUMP

11216  10 2137   701          ENTAU*TPAT1+3          SET AU TO 525252
11217  12 2137   702          ENTAL*TPAT1+3          SET AL TO 525252
11220  50 4301   703          RSHA*1                 TEST SHIFT
11221  02 2144   704          CMAL*TPAT2+2           IS AL CORRECT
11222  63 1227   705          JPNOT*RSA1             ERROR JUMP
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11223  50 4722   706          LSHA*22                 EXCHANGE REGS

11224  02 2151   707          CMAL*TPAT3+1            IS AU CORRECT
11225  61 1236   710          JPEQ*LOK+11             YES EXIT
11226  50 4722   711          LSHA*22                 EXCHANGE REGS
11227  50 5601   712   RSA1   STOP*1                  ERROR STOP
11230  50 5020   713          SKP*20
11231  34 1233   714          JP*LOK+2
11232  55 1105   715          IJP*RSAL
11233  46 2367   716          STRAU*PTN1

11234  44 2370   717          STRAL*PTN2
11235  76 0364   720          RJP*ERMSG
11236  55 1105   721          IJP*RSAL                EXIT
               722   ADER     PROG*DARFWS*1MAR63
               723            SETADR*1515
11237  00 0000   724   ADER   0*0                     TEST ADDER
11240  10 2134   725          ENTAU*TPAT1             CLEAR AU
11241  12 2135   726          ENTAL*TPAT1+1           SET AL TO 777777

11242  53 2135   727          SLCP*TPAT1+1            TEST SEL COMP
11243  63 1262   730          JPALNZ*ADER1            ERROR JUMP
11244  10 2135   731          ENTAU*TPAT1+1           CORRECT TO AU
11245  12 2134   732          ENTAL*TPAT1             CLEAR AL
11246  53 2135   733          SLCP*TPAT1+1            TEST SEL COMP
11247  02 2135   734          CMAL*TPAT1+1            IS AL CORRECT
11250  63 1262   735          JPNOT*ADER1             ERROR JUMP
11251  12 2136   736          ENTAL*TPAT1+2           SET AL TO 252525

11252  53 2137   737          SLCP*TPAT1+3            TEST SEL COMP
11253  02 2135   740          CMAL*TPAT1+1            IS AL CORRECT
11254  63 1262   741          JPNOT*ADER1             ERROR JUMP
11255  10 2141   742          ENTAU*TPAT1+5           CORRECT TO AU
11256  12 2134   743          ENTAL*TPAT1             CLEAR AL
11257  53 2141   744          SLCP*TPAT1+5            TEST SEL COMP
11260  02 2141   745          CMAL*TPAT1+5            IS AL CORRECT
11261  61 1271   746          JPEQ*ADER3              YES CONTINUE

11262  50 5601   747   ADER1  STOP*1                  ERROR STOP SLCP
11263  50 5020   750          SKP*20
11264  34 1266   751          JP*LOK+2
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11265  34 1271    752            JP*ADER3
11266  46 2367    753            STRAU*PTN1
11267  44 2370    754            STRAL*PTN2

11270  76 0364    755            RJP*ERMSG
11271  10 2135    756    ADER3   ENTAU*TPAT1+1          CORRECT TO AU
11272  12 2135    757            ENTAL*TPAT1+1          SET AL TO 777777
11273  14 2135    760            ADDAL*TPAT1+1          NO BORROWS NO ENABLES
11274  02 2143    761            CMAL*TPAT2+1           IS AL CORRECT
11275  63 1370    762            JPNOT*ADER2            ERROR JUMP
11276  10 2134    763            ENTAU*TPAT1            CORRECT TO AU
11277  12 2135    764            ENTAL*TPAT1+1          SET AL TO 777777

11300  14 2134    765            ADDAL*TPAT1            NO BORROWS ALL ENABLES
11301  63 1370    766            JPALNZ*ADER2           ERROR JUMP
11302  14 2135    767            ADDAL*TPAT1+1          0 + NEG 0
11303  63 1370    770            JPALNZ*ADER2           ERROR JUMP
11304  14 2134    771            ADDAL*TPAT1            ALL BORROWS NO ENABLES
11305  63 1370    772            JPALNZ*ADER2           ERROR JUMP
11306  32 2134    773            ENTB*TPAT1             CLEAR B
11307  12 2122    774            ENTAL*TWD1             SET AL TO 377777

11310  10 2123    775            ENTAU*TWD2             SET AU TO 377776
11311  50 4701    776    ADER10  LSHA*1                 SHIFT PATTERN
11312  44 2124    777            STRAL*SHWD1            SAVE AL
11313  46 2125    1000           STRAU*SHWD2            SAVE AU
11314  11 2152    1001           ENTAUB*TAB3            CORRECT TO AU
11315  14 2125    1002           ADDAL*SHWD2            TEST ADD
11316  06 2135    1003           CMSK*TPAT1+1           IS AL CORRECT
11317  63 1370    1004           JPNOT*ADER2            ERROR JUMP

11320  12 2124    1005           ENTAL*SHWD1            RESTORE AL
11321  10 2125    1006           ENTAU*SHWD2            RESTORE AU
11322  56 2127    1007           BSK*INDEX              ALL 21 CHECKED
11323  34 1311    1010           JP*ADER10              NO CONTINUE
11324  32 2134    1011           ENTB*TPAT1             CLEAR B
11325  13 2216    1012           ENTALB*TAB4            SET AL TO PATTERN
11326  50 4601    1013           LSHAL*1                SHIFT PATTERN
11327  45 2240    1014           STRALB*TAB5            SET NEW PATTERN

11330  56 2127    1015           BSK*INDEX              TABLE COMPLETE
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11331  34 1325   1016                JP*LOK-4                NO CONTINUE
11332  12 2126   1017                ENTAL*INST1             RESTORE INST
11333  44 1343   1020                STRAL*ADER11            RESTORE
11334  12 2127   1021                ENTAL*INDEX             INDEX 21
11335  44 2131   1022                STRAL*INDEX2            SET INDEX

11336  12 2122   1023                ENTAL*TWD1              SET AL TO 377777
11337  50 4601   1024                LSHAL*1                 SHIFT PATTERN
11340  44 2124   1025                STRAL*SHWD1             SAVE PATTERN
11341  32 2134   1026                ENTB*TPAT1              CLEAR B
11342  12 2124   1027                ENTAL*SHWD1             PATTERN TO AL
11343  11 2152   1030   ADER11       ENTAUB*TAB3             CORRECT TO AU
11344  15 2240   1031                ADDALB*TAB5             TEST ADD
11345  06 2135   1032                CMSK*TPAT1+1            IS AL CORRECT

11346  63 1400   1033                JPNOT*ADER4             ERROR JUMP 3
11347  56 2127   1034                BSK*INDEX               ALL PATTERNS CHECKED
11350  34 1342   1035                JP*ADER11-1             NO CONTINUE
11351  12 1343   1036                ENTAL*ADER11            INST
11352  14 2130   1037                ADDAL*INDEX1            ADDRESS+1
11353  44 1343   1040                STRAL*ADER11            RESET INST
11354  12 2124   1041                ENTAL*SHWD1             SET AL TO PATTERN
11355  50 4601   1042                LSHAL*1                 SHIFT PATTERN

11356  44 2124   1043                STRAL*SHWD1             RESET PATTERN
11357  36 0000   1044                ENTBK*0                 CLEAR B
11360  13 2240   1045                ENTALB*TAB5             ENTER TABLE
11361  50 4601   1046                LSHAL*1                 SHIFT TABLE
11362  45 2240   1047                STRALB*TAB5             RESET TABLE
11363  56 2127   1050                BSK*INDEX               TABLE COMPLETE
11364  34 1360   1051                JP*LOK-4                NO CONTINUE
11365  57 2131   1052                ISK*INDEX2              INDEX 21

11366  34 1341   1053                JP*ADER11-2             CONTINUE
11367  55 1237   1054                IJP*ADER                EXIT
11370  50 5601   1055   ADER2        STOP*1                  ERROR STOP
11371  50 5020   1056                SKP*20
11372  34 1374   1057                JP*LOK+2
11373  55 1237   1060                IJP*ADER
11374  46 2367   1061                STRAU*PTN1
11375  44 2370   1062                STRAL*PTN2
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11376  76 0364   1063          RJP*ERMSG
11377  55 1237   1064          IJP*ADER                ERROR EXIT
11400  42 1424   1065   ADER4  STRB*ADER31            SAVE B
11401  50 5601   1066          STOP*1                  ERROR STOP
11402  46 2367   1067          STRAU*PTN1              SAVE CORRECT
11403  44 2370   1070          STRAL*PTN2              SAVE INCORRECT

11404  10 2135   1071          ENTAU*TPAT1+1           AU 777777
11405  12 2131   1072          ENTAL*INDEX2            ERROR INDEX
11406  50 5601   1073          STOP*1                  ERROR INDEX STOP
11407  50 5020   1074          SKP*20                  IS TYPEOUT WANTED
11410  34 1412   1075          JP*LOK+2                YES
11411  55 1237   1076          IJP*ADER                NO
11412  76 0364   1077          RJP*ERMSG
11413  32 2131   1100          ENTB*INDEX2

11414  13 1426   1101          ENTALB*ADER33
11415  10 1425   1102          ENTAU*ADER32
11416  30 1417   1103          TYPC*A
11417  01 2630
11420  20 0000
11421  00 0000
11422  32 1424   1104          ENTB*ADER31             RESTORE B
11423  55 1237   1105          IJP*ADER                ERROR EXIT

11424  00 0000   1106   ADER31 0*0
11425  04 0354   1107   ADER32 04*0354                 CR1LF1
11426  44 6262   1110   ADER33 44*6262                 22
11427  44 6261   1111          44*6261                 21
11430  44 6260   1112          44*6260                 20
11431  44 6167   1113          44*6167                 17
11432  44 6166   1114          44*6166                 16
11433  44 6165   1115          44*6165                 15

11434  44 6164   1116          44*6164                 14
11435  44 6163   1117          44*6163                 13
11436  44 6162   1120          44*6162                 12
11437  44 6161   1121          44*6161                 11
11440  44 6160   1122          44*6160                 10
11441  ) 0567    1123          44*0567                 7
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11442  44 0566   1124          44*0566                  6
11443  44 0565   1125          44*0565                  5
11444  44 0564   1126          44*0564                  4
11445  44 0563   1127          44*0563                  3
11446  44 0562   1130          44*0562                  2
11447  44 0561   1131          44*0561                  1
                 1132    KT    PROG*DARFWS*1MAR63
                 1133          SETADR*1643

11450  00 0000   1134    KT    0*0                      TEST SHIFT COUNTER
11451  10 2140   1135          ENTAU*TPAT1+4            SET AU TO 707070
11452  12 2140   1136          ENTAL*TPAT1+4            SET AL TO 707070
11453  50 4744   1137          LSHA*44                  TEST COUNTER
11454  02 2140   1140          CMAL*TPAT1+4             IS AL CORRECT
11455  61 1467   1141          JPEQ*LOK+12              YES CONTINUE
11456  10 2140   1142          ENTAU*TPAT1+4            CORRECT TO AU
11457  50 5601   1143    KT1   STOP*1                   ERROR STOP

11460  50 5020   1144          SKP*20
11461  34 1463   1145          JP*LOK+2
11462  55 1450   1146          IJP*KT
11463  46 2367   1147          STRAU*PTN1
11464  44 2370   1150          STRAL*PTN2
11465  76 0364   1151          RJP*ERMSG
11466  55 1450   1152          IJP*KT                   ERROR EXIT
11467  06 2135   1153          CMSK*TPAT1+1             IS AU CORRECT

11470  61 1474   1154          JPEQ*LOK+4               YES CONTINUE
11471  46 2132   1155          STRAU*TPCK               SAVE AU
11472  12 2132   1156          ENTAL*TPCK               SET AL EQUAL AU
11473  34 1456   1157          JP*KT1-1                 ERROR JUMP
11474  10 2150   1160          ENTAU*TPAT3              SET AU TO 125252
11475  12 2151   1161          ENTAL*TPAT3+1            SET AL TO 652525
11476  50 4766   1162          LSHA*66                  TEST COUNTER
11477  02 2150   1163          CMAL*TPAT3               IS AL CORRECT

11500  61 1503   1164          JPEQ*LOK+3               YES CONTINUE
11501  10 2150   1165          ENTAU*TPAT3              CORRECT TO AU
11502  34 1457   1166          JP*KT1                   ERROR JUMP
11503  46 2132   1167          STRAU*TPCK               SAVE AU
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11504  12 2132   1170          ENTAL*TPCK          SET AL EQUAL AU
11505  02 2151   1171          CMAL*TPAT3+1        IS AU CORRECT

11506  61 1511   1172          JPEQ*L0K+3          YES CONTINUE
11507  10 2151   1173          ENTAU*TPAT3+1       CORRECT TO AU
11510  34 1457   1174          JP*KT1              ERROR JUMP
11511  12 2150   1175          ENTAL*TPAT3         SET AL TO 125252
11512  10 2134   1176          ENTAU*TPAT1         CLEAR AU
11513  50 4220   1177          RSHAL*20            TEST COUNTER
11514  63 1457   1200          JPALNZ*KT1          ERROR JUMP
11515  10 2151   1201          ENTAU*TPAT3+1       SET AU TO 652525

11516  50 4342   1202          RSHA*42             TEST COUNTER
11517  02 2135   1203          CMAL*TPAT1+1        IS AL CORRECT
11520  61 1523   1204          JPEQ*L0K+3          YES CONTINUE
11521  10 2135   1205    KT2   ENTAU*TPAT1+1       CORRECT TO AU
11522  34 1457   1206          JP*KT1              ERROR JUMP
11523  06 2135   1207          CMSK*TPAT1+1        IS AU CORRECT
11524  61 1466   1210          JPEQ*KT1+7
11525  46 2132   1211          STRAU*TPCK          SAVE AU

11526  12 2132   1212          ENTAL*TPCK          SET AL EQUAL AU
11527  34 1521   1213          JP*KT2              ERROR JUMP
                  1214    CPAL  PROG*DARFWS*1MAR63
                  1215          SETADR*1715
11530  00 0000   1216    CPAL  0*0                 TEST COMPLEMENT
11531  12 2134   1217          ENTAL*TPAT1         CLEAR AL
11532  50 6100   1220          CPAL*0              TEST COMP
11533  61 1545   1221          JPALZ*L0K+12        YES CONTINUE

11534  10 2134   1222          ENTAU*TPAT1         CORRECT TO AU
11535  50 5601   1223    CPAL1 STOP*1              ERROR STOP
11536  50 5020   1224          SKP*20
11537  34 1541   1225          JP*L0K+2
11540  55 1530   1226          IJP*CPAL
11541  46 2367   1227          STRAU*PTN1
11542  44 2370   1230          STRAL*PTN2
11543  76 0364   1231          RJP*ERMSG

11544  55 1530   1232          IJP*CPAL            ERROR EXIT
11545  ( )2137   1233          ENTAU*TPAT1+3       CORRECT TO AU
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11546  12 2136  1234          ENTAL*TPAT1+2      SET AL TO 252525
11547  50 6100  1235          CPAL*0             TEST FUNC
11550  02 2137  1236          CMAL*TPAT1+3       IS AL CORRECT
11551  63 1535  1237          JPNOT*CPAL1        ERROR JUMP

11552  10 2141  1240          ENTAU*TPAT1+5      CORRECT TO AU
11553  12 2140  1241          ENTAL*TPAT1+4      SET AL TO 707070
11554  50 6100  1242          CPAL*0             TEST COMP
11555  02 2141  1243          CMAL*TPAT1+5       IS AL CORRECT
11556  63 1535  1244          JPNOT*CPAL1        ERROR JUMP
11557  12 2134  1245          ENTAL*TPAT1        CLEAR AL
11560  10 2134  1246          ENTAU*TPAT1        CLEAR AU
11561  50 6200  1247          CPAU*0             TEST FUNC

11562  60 1574  1250          JPAUZ*LOK+12       CORRECT JUMP
11563  50 4722  1251  CPAU1   LSHA*22            EXCHANGE REGS
11564  50 5601  1252          STOP*1             ERROR STOP
11565  50 5020  1253          SKP*20
11566  34 1570  1254          JP*LOK+2
11567  55 1530  1255          IJP*CPAL
11570  46 2367  1256          STRAU*PTN1
11571  44 2370  1257          STRAL*PTN2

11572  76 0364  1260          RJP*ERMSG
11573  55 1530  1261          IJP*CPAL           ERROR EXIT
11574  10 2135  1262          ENTAU*TPAT1+1      SET AU TO 777777
11575  50 6200  1263          CPAU*0             TEST FUNC
11576  62 1563  1264          JPAUNZ*CPAU1       ERROR JUMP
11577  12 2137  1265          ENTAL*TPAT1+3      CORRECT TO AL
11600  10 2136  1266          ENTAU*TPAT1+2      SET AU TO 252525
11601  50 6200  1267          CPAU*0             TEST FUNC

11602  06 2135  1270          CMSK*TPAT1+1       IS AU CORRECT
11603  63 1563  1271          JPNOT*CPAU1        ERROR JUMP
11604  12 2141  1272          ENTAL*TPAT1+5      CORRECT TO AL
11605  10 2140  1273          ENTAU*TPAT1+4      SET AU TO 707070
11606  50 6200  1274          CPAU*0             TEST FUNC
11607  06 2135  1275          CMSK*TPAT1+1       IS AU CORRECT
11610  63 1563  1276          JPNOT*CPAU1        ERROR JUMP
11611  10 2134  1277          ENTAU*TPAT1        CLEAR AU
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11612  12 2134   1300          ENTAL*TPAT1          CLEAR AL
11613  50 6300   1301          CPA*0                TEST FUNC
11614  63 1617   1302          JPALNZ*LOK+3         ERROR JUMP
11615  60 1627   1303          JPAUZ*LOK+12         CORRECT JUMP
11616  50 4722   1304    CPA1  LSHA*22              EXCHANGE REGS
11617  50 5601   1305          STOP*1               ERROR STOP

11620  50 5020   1306          SKP*20
11621  34 1623   1307          JP*LOK+2
11622  55 1530   1310          IJP*CPAL
11623  46 2367   1311          STRAU*PTN1
11624  44 2370   1312          STRAL*PTN2
11625  76 0364   1313          RJP*ERMSG
11626  55 1530   1314          IJP*CPAL             ERROR EXIT
11627  10 2135   1315          ENTAU*TPAT1+1        SET AU TO 777777

11630  12 2135   1316          ENTAL*TPAT1+1        SET AL TO 777777
11631  50 6300   1317          CPA*0                TEST FUNC
11632  61 1635   1320          JPALZ*LOK+3          CORRECT JUMP
11633  10 2134   1321          ENTAU*TPAT1          CORRECT TO AU
11634  34 1617   1322          JP*CPA1+1            ERROR JUMP
11635  62 1616   1323          JPAUNZ*CPA1          ERROR JUMP
11636  10 2137   1324          ENTAU*TPAT1+3        SET AU TO 525252
11637  12 2137   1325          ENTAL*TPAT1+3        SET AL TO 525252

11640  50 6300   1326          CPA*0                TEST FUNC
11641  02 2136   1327          CMAL*TPAT1+2         IS AL CORRECT
11642  61 1645   1330          JPEQ*LOK+3           YES CONTINUE
11643  10 2136   1331          ENTAU*TPAT1+2        CORRECT TO AU
11644  34 1617   1332          JP*CPA1+1            ERROR JUMP
11645  06 2135   1333          CMSK*TPAT1+1         IS AU CORRECT
11646  63 1616   1334          JPNOT*CPA1           ERROR JUMP
11647  10 2141   1335          ENTAU*TPAT1+5        SET AU TO 070707

11650  12 2141   1336          ENTAL*TPAT1+5        SET AL TO 070707
11651  50 6300   1337          CPA*0                TEST FUNC
11652  02 2140   1340          CMAL*TPAT1+4         IS AL CORRECT
11653  61 1656   1341          JPEQ*LOK+3           YES CONTINUE
11654  10 2140   1342          ENTAU*TPAT1+4        CORRECT TO AU
11655  34 1617   1343          JP*CPA1+1            ERROR JUMP
11656     2135   1344          CMSK*TPAT1+1         IS AU CORRECT
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11657  63 1616    1345          JPNOT*CPA1          ERROR JUMP
11660  55 1530    1346          IJP*CPAL            EXIT
                  1347    ADD   PROG*DARFWS*1MAR63
                  1350          SETADR*2024
11661  00 0000    1351    ADD   0*0                 TEST BORROW
11662  12 1712    1352          ENTAL*ATAB          SET AL TO 777777
11663  10 1713    1353          ENTAU*ATAB+1        SET AU TO 377777

11664  20 1714    1354          ADDA*ATAB+2         DOUBLE ADD
11665  50 5100    1355          SKPNBO*0            DID BORROW OCCUR
11666  34 1670    1356          JP*LOK+2            YES CONTINUE
11667  34 1701    1357          JP*ADD1             ERROR JUMP
11670  22 1714    1360          SUBA*ATAB+2         CORRECT ANSWER
11671  20 1712    1361          ADDA*ATAB           DOUBLE ADD
11672  50 5100    1362          SKPNBO*0            DID BORROW OCCUR
11673  34 1701    1363          JP*ADD1             ERROR JUMP

11674  62 1701    1364          JPAUNZ*ADD1         ERROR JUMP
11675  63 1701    1365          JPALNZ*ADD1         ERROR JUMP
11676  22 1712    1366          SUBA*ATAB           DOUBLE SUBT
11677  50 5100    1367          SKPNBO*0            DID BORROW OCCUR
11700  34 1710    1370          JP*LOK+10           YES EXIT
11701  50 5601    1371    ADD1  STOP*1              ERROR STOP
11702  50 5020    1372          SKP*20
11703  34 1705    1373          JP*LOK+2

11704  55 1661    1374          IJP*ADD
11705  46 2367    1375          STRAU*PTN1
11706  44 2370    1376          STRAL*PTN2
11707  76 0364    1377          RJP*ERMSG
11710  55 1661    1400          IJP*ADD             ERROR EXIT
11711  00 0000    1401          DBLSET*
11712  77 7777    1402    ATAB  777777*
11713  37 7777    1403          377777*

11714  00 0001    1404          1*
11715  00 0000    1405          0*
                  1406    MUL   PROG*DARFWS*1MAR63
                  1407          SETADR*2053
11716  00 0000    1410    MUL   0*0                 TEST MULTIPLY SIGN
```

```
11717  70 0001    1411                ENTALK*1                    SET AL TO 000001

11720  24 1745    1412                MULAL*MUL3                  TEST FUNC + AND +
11721  66 1735    1413                JPAUNG*MUL1                 ERROR JUMP
11722  67 1735    1414                JPALNG*MUL1                 ERROR JUMP
11723  24 1746    1415                MULAL*MUL4                  TEST FUNC + AND -
11724  64 1735    1416                JPAUP*MUL1                  ERROR JUMP
11725  65 1735    1417                JPALP*MUL1                  ERROR JUMP
11726  24 1746    1420                MULAL*MUL4                  TEST FUNC - AND -
11727  66 1735    1421                JPAUNG*MUL1                 ERROR JUMP

11730  67 1735    1422                JPALNG*MUL1                 ERROR JUMP
11731  70 7776    1423                ENTALK*7776                 SET AL TO 777776 (-1)
11732  24 1745    1424                MULAL*MUL3                  TEST FUNC - AND + OK IF AU=777777
11733  65 1735    1425                JPALP*MUL1                                      AL=777775
11734  66 1744    1426                JPAUNG*MUL1+7               ERROR JUMP
11735  50 5601    1427    MUL1        STOP*1                      EXIT
11736  50 5020    1430                SKP*20                      ERROR STO
11737  34 1741    1431                JP*LOK+2

11740  55 1716    1432                IJP*MUL
11741  46 2367    1433                STRAU*PTN1
11742  44 2370    1434                STRAL*PTN2
11743  76 0364    1435                RJP*ERMSG
11744  55 1716    1436                IJP*MUL                     ERROR EXIT
11745  00 0002    1437    MUL3        2*
11746  77 7776    1440    MUL4        777776*
                  1441    DIV         PROG*DARFWS*1MAR63

                  1442                SETADR*2076
11747  00 0000    1443    DIV         0*0                         TEST DIVIDE SIGN
11750  10 2052    1444                ENTAU*DTAB                  CLEAR AU
11751  70 0005    1445                ENTALK*5                    SET AL TO 000005
11752  26 2053    1446                DIVA*DTAB1                  TEST FUNC A/Y
11753  02 2055    1447                CMAL*DTAB3                  IS AL CORRECT
11754  61 1765    1450                JPEQ*LOK+11                 YES CONTINUE
11755  50 5601    1451                STOP*1                      ERROR STOP

11756  50 5020    1452                SKP*20
11757  34 1761    1453                JP*LOK+2
11760  ) 1747     1454                IJP*DIV
```

```
11761  46 2367   1455          STRAU*PTN1
11762  44 2370   1456          STRAL*PTN2
11763  76 0364   1457          RJP*ERMSG

11764  55 1747   1460          IJP*DIV          ERROR EXIT
11765  06 2135   1461          CMSK*TPAT1+1     IS AU CORRECT
11766  63 1755   1462          JPNOT*LOK-11
11767  10 2052   1463          ENTAU*DTAB       CLEAR AU
11770  70 0005   1464          ENTALK*5         SET AL TO 000005
11771  26 2054   1465          DIVA*DTAB2       TEST FUNC A/-Y
11772  02 2056   1466          CMAL*DTAB4       IS AL CORRECT
11773  61 2004   1467          JPEQ*LOK+11      YES CONTINUE

11774  50 5601   1470  DIV1    STOP*1           ERROR STOP
11775  50 5020   1471          SKP*20
11776  34 2000   1472          JP*LOK+2
11777  55 1747   1473          IJP*DIV
12000  46 2367   1474          STRAU*PTN1
12001  44 2370   1475          STRAL*PTN2
12002  76 0364   1476          RJP*ERMSG
12003  55 1747   1477          IJP*DIV          ERROR EXIT

12004  50 4722   1500          LSHA*22          EXCHANGE REGS
12005  02 2055   1501          CMAL*DTAB3       IS AU CORRECT
12006  61 2011   1502          JPEQ*LOK+3       YES CONTINUE
12007  50 4722   1503          LSHA*22          EXCHANGE REGS
12010  34 1774   1504          JP*DIV1          ERROR JUMP
12011  10 2264   1505          ENTAU*DVT12      SET AU TO 777777
12012  70 7772   1506          ENTALK*7772      SET AL TO 777772
12013  26 2053   1507          DIVA*DTAB1       TEST FUNC -A/Y

12014  02 2056   1510          CMAL*DTAB4       IS AL CORRECT
12015  61 2026   1511          JPEQ*LOK+11      YES CONTINUE
12016  50 5601   1512          STOP*1           ERROR STOP
12017  50 5020   1513          SKP*20
12020  34 2022   1514          JP*LOK+2
12021  55 1747   1515          IJP*DIV
12022  46 2367   1516          STRAU*PTN1
12023  44 2370   1517          STRAL*PTN2

12024  76 0364   1520          RJP*ERMSG
```

```
12025  55 1747    1521                IJP*DIV                 ERROR EXIT
12026  06 2135    1522                CMSK*TPAT1+1            IS AU CORRECT
12027  63 2016    1523                JPNOT*LOK-11
12030  10 2264    1524                ENTAU*DVT12             SET AU TO 777777
12031  70 7772    1525                ENTALK*7772             SET AL TO 777772

12032  26 2054    1526                DIVA*DTAB2              TEST FUNC -A/-Y
12033  02 2055    1527                CMAL*DTAB3              IS AL CORRECT
12034  61 2045    1530                JPEQ*LOK+11             YES CONTINUE
12035  50 5601    1531     DIV2       STOP*1                  ERROR STOP
12036  50 5020    1532                SKP*20
12037  34 2041    1533                JP*LOK+2
12040  55 1747    1534                IJP*DIV
12041  46 2367    1535                STRAU*PTN1

12042  46 2370    1536                STRAL*PTN2
12043  76 0364    1537                RJP*ERMSG
12044  55 1747    1540                IJP*DIV                 ERROR EXIT
12045  50 4722    1541                LSHA*22                 EXCHANGE REGS
12046  02 2056    1542                CMAL*DTAB4              IS AU CORRECT
12047  61 2044    1543                JPEQ*DIV2+7             EXIT
12050  50 4722    1544                LSHA*22                 EXCHANGE REGS
12051  34 2035    1545                JP*DIV2                 ERROR JUMP

12052  00 0000    1546     DTAB       0*
12053  00 0004    1547     DTAB1      4*
12054  77 7773    1550     DTAB2      777773*
12055  00 0001    1551     DTAB3      1*
12056  77 7776    1552     DTAB4      777776*
                  1553     DVT        PROG*DARFWS*1MAR63
                  1554                SETADR*2156
12057  00 0000    1555     DVT        0*0                     TEST DIVIDE

12060  36 0000    1556                ENTBK*0                 CLEAR B
12061  40 2267    1557                CL*DT3                  CLR ERROR DISPLAY
12062  10 2267    1560     DVT1       ENTAU*DT3               CLEAR AU
12063  13 2270    1561                ENTALB*DT1              PATTERN TO AL
12064  27 2311    1562                DIVAB*DT2               TEST DIVIDE
12065  61 2076    1563                JPALZ*LOK+11            IS AL CORRECT
12066  50 5601    1564                STOP*1                  ERROR STOP
12067  50 5020    1565                SKP*20
```

```
12070  34 2072   1566                JP*LOK+2
12071  55 2057   1567                IJP*DVT
12072  46 2367   1570                STRAU*PTN1
12073  44 2370   1571                STRAL*PTN2
12074  76 0364   1572                RJP*ERMSG
12075  55 2057   1573                IJP*DVT                 ERROR EXIT

12076  13 2270   1574                ENTALB*DT1              CORRECT TO AL
12077  06 2135   1575                CMSK*TPAT1+1            IS AU CORRECT
12100  61 2105   1576                JPEQ*LOK+5              YES CONTINUE
12101  12 2267   1577                ENTAL*DT3               ERROR BITS
12102  11 2332   1600                ENTAUB*DT4              NEW ERROR BIT
12103  51 2332   1601                SLSET*DT4               SET NEW ERROR BIT
12104  44 2267   1602                STRAL*DT3               SAVE ERROR BITS
12105  06 2265   1603                BSK*DVT13               ALL PATTERNS CHECKED

12106  34 2062   1604                JP*DVT1                 NO CONTINUE
12107  12 2267   1605                ENTAL*DT3               ANY ERRORS
12110  61 2121   1606                JPALZ*LOK+11            NO EXIT
12111  50 5601   1607                STOP*1                  ERROR STOP
12112  50 5020   1610                SKP*20
12113  34 2115   1611                JP*LOK+2
12114  55 2057   1612                IJP*DVT
12115  10 0437   1613                ENTAU*PAT

12116  46 2367   1614                STRAU*PTN1
12117  44 2370   1615                STRAL*PTN2
12120  76 0364   1616                RJP*ERMSG
12121  55 2057   1617                IJP*DVT                 ERROR EXIT
               1620   CONSTA   PROG*DARFWS*1MAR63
               1621            SETADR*2204
12122  37 7777   1622   TWD1     377777*
12123  37 7776   1623   TWD2     377776*

12124  00 0000   1624   SHWD1    0*
12125  00 0000   1625   SHWD2    0*
12126  11 2152   1626   INST1    ENTAUB*TAB3
12127  00 0021   1627   INDEX    21*
12130  00 0001   1630   INDEX1   1*
12131  00 0021   1631   INDEX2   21*
```

```
12132  00 0000    1632    TPCK    0*
12133  00 0000    1633    TPCK1   0*
12134  00 0000    1634    TPAT1   0*
12135  77 7777    1635            777777*
12136  25 2525    1636            252525*
12137  52 5252    1637            525252*
12140  70 7070    1640            707070*
12141  07 0707    1641            070707*

12142  00 0000    1642    TPAT2   0*
12143  77 7777    1643            777777*
12144  25 2525    1644            252525*
12145  52 5252    1645            525252*
12146  70 7070    1646            707070*
12147  07 0707    1647            070707*
12150  12 5252    1650    TPAT3   125252*
12151  65 2525    1651            652525*

12152  77 7773    1652    TAB3    777773*
12153  77 7767    1653            777767*
12154  77 7757    1654            777757*
12155  77 7737    1655            777737*
12156  77 7677    1656            777677*
12157  77 7577    1657            777577*
12160  77 7377    1660            777377*
12161  77 6777    1661            776777*

12162  77 5777    1662            775777*
12163  77 3777    1663            773777*
12164  76 7777    1664            767777*
12165  75 7777    1665            757777*
12166  73 7777    1666            737777*
12167  67 7777    1667            677777*
12170  57 7777    1670            577777*
12171  37 7777    1671            377777*

12172  77 7776    1672            777776*
12173  77 7775    1673            777775*
12174  77 7773    1674            777773*
12175  )7767      1675            777767*
```

```
12176  77 7757    1676                777757*
12177  77 7737    1677                777737*

12200  77 7677    1700                777677*
12201  77 7577    1701                777577*
12202  77 7377    1702                777377*
12203  77 6777    1703                776777*
12204  77 5777    1704                775777*
12205  77 3777    1705                773777*
12206  76 7777    1706                767777*
12207  75 7777    1707                757777*

12210  73 7777    1710                737777*
12211  67 7777    1711                677777*
12212  57 7777    1712                577777*
12213  37 7777    1713                377777*
12214  77 7776    1714                777776*
12215  77 7775    1715                777775*
12216  37 7776    1716     TAB4       377776*
12217  37 7774    1717                377774*

12220  37 7770    1720                377770*
12221  37 7760    1721                377760*
12222  37 7740    1722                377740*
12223  37 7700    1723                377700*
12224  37 7600    1724                377600*
12225  37 7400    1725                377400*
12226  37 7000    1726                377000*
12227  37 6000    1727                376000*

12230  37 4000    1730                374000*
12231  37 0000    1731                37*0
12232  36 0000    1732                36*0
12233  34 0000    1733                34*0
12234  30 0000    1734                30*0
12235  20 0000    1735                20*0
12236  00 0000    1736                0*
12237  37 7777    1737                377777*

12240  00 0000    1740     TAB5       RESERV*22
12262  00 0000    1741     DVT10      0*
```

```
12263  00 0000    1742    DVT11    0*
12264  77 7777    1743    DVT12    777777*
12265  00 0020    1744    DVT13    20*
12266  00 0000    1745    DVT14    0*

12267  00 0000    1746    DT3      0*
12270  00 0001    1747    DT1      1*
12271  00 0002    1750             2*
12272  00 0005    1751             5*
12273  00 0012    1752             12*
12274  00 0025    1753             25*
12275  00 0052    1754             52*
12276  00 0125    1755             125*

12277  00 0252    1756             252*
12300  00 0525    1757             525*
12301  00 1252    1760             1252*
12302  00 2525    1761             2525*
12303  00 5252    1762             5252*
12304  01 2525    1763             12525*
12305  02 5252    1764             25252*
12306  05 2525    1765             52525*

12307  12 5252    1766             125252*
12310  25 2525    1767             252525*
12311  00 0002    1770    DT2      2*
12312  00 0003    1771             3*
12313  00 0006    1772             6*
12314  00 0014    1773             14*
12315  00 0030    1774             30*
12316  00 0060    1775             60*

12317  00 0140    1776             140*
12320  00 0300    1777             300*
12321  00 0600    2000             600*
12322  00 1400    2001             1400*
12323  00 3000    2002             3000*
12324  00 6000    2003             6000*
12325  01 4000    2004             14000*
12326  03 0000    2005             30000*
```

```
12327  06 0000    2006                60000*
12330  14 0000    2007                14*0
12331  30 0000    2010                30*0
12332  00 0001    2011     DT4        1*
12333  00 0002    2012                2*
12334  00 0004    2013                4*

12335  00 0010    2014                10*
12336  00 0020    2015                20*
12337  00 0040    2016                40*
12340  00 0100    2017                100*
12341  00 0200    2020                200*
12342  00 0400    2021                400*
12343  00 1000    2022                1000*
12344  00 2000    2023                2000*

12345  00 4000    2024                4000*
12346  01 0000    2025                10000*
12347  02 0000    2026                20000*
12350  04 0000    2027                40000*
12351  10 0000    2030                100000*
12352  20 0000    2031                20*0
12353  00 0000    2032     FLAG       RESERV*13
12366  00 0000    2033     ALPARM     0*

12367  00 0000    2034     PTN1       0*
12370  00 0000    2035     PTN2       0*
12371  00 0037    2036     K1         000037*
12372  77 7700    2037     K2         777700*
12373  00 0001    2040     K3         000001*
                  2041                REMARK*TYPT FOR 1232 OR 1532
12374  00 0000    2042     TYPT       0*
12375  75 2436    2043                STRSR*T$PT20

12376  46 2464    2044                STRAU*T$PT3
12377  44 2465    2045                STRAL*T$PT4
12400  42 2466    2046                STRB*T$PT5
12401  70 0003    2047                ENTALK*3
12402  76 2447    2050                RJP*T$PT12
12403  32 2374    2051     T$PT1      ENTB*TYPT
12404  37 0001    2052                ENTBKB*1
```

```
12405  42 2374    2053              STRB*TYPT
12406  50 7310    2054              ENTSR*10
12407  11 0000    2055              ENTAUB*0
12410  50 7300    2056              ENTSR*0
12411  36 0002    2057              ENTBK*2
12412  70 0000    2060    T$PT2     ENTALK*0
12413  50 4706    2061              LSHA*6

12414  02 2467    2062              CMAL*T$PT6
12415  61 2427    2063              JPEQ*T$PT22
12416  71 0040    2064    RN00P     ADDALK*40          MODIFIED TO RJP*CONVER IF 1232 SELECTED
12417  02 2525    2065              CMAL*M136          CR-LF?
12420  63 2424    2066              JPNOT*L0K+4        NO
12421  70 0015    2067              ENTALK*15          CR
12422  76 2440    2070              RJP*T$PT7
12423  70 0012    2071              ENTALK*12          LF

12424  76 2440    2072              RJP*T$PT7
12425  73 2412    2073    T$PT21    BJP*T$PT2
12426  34 2403    2074              JP*T$PT1
12427  70 0001    2075    T$PT22    ENTALK*1
12430  76 2447    2076              RJP*T$PT12
12431  14 2374    2077              ADDAL*TYPT
12432  44 2374    2100              STRAL*TYPT
12433  10 2464    2101              ENTAU*T$PT3

12434  12 2465    2102              ENTAL*T$PT4
12435  32 2466    2103              ENTB*T$PT5
12436  50 7300    2104    T$PT20    ENTSR*0
12437  55 2374    2105              IJP*TYPT
12440  00 0000    2106    T$PT7     0*
12441  76 2456    2107              RJP*T$PT13
12442  44 2471    2110              STRAL*T$PT11
12443  50 1200    2111    T$1       BUFOUT*CHAN*AD*1*T$PT11

12444  01 2471
12445  01 2471
12446  55 2440    2112              IJP*T$PT7
12447  00 0000    2113    T$PT12    0*
12450  76 2456    2114              RJP*T$PT13
```

```
12451  44 2471    2115                STRAL*T$PT11

12452  50 1300    2116     T$2        EXFCT*CHAN*AD*1*T$PT11
12453  01 2471
12454  01 2471
12455  55 2447    2117                IJP*T$PT12
12456  00 0000    2120     T$PT13     0*
12457  50 2300    2121     T$3        SKPFIN*CHAN
12460  34 2457    2122                JP*LOK-1
12461  50 2200    2123     T$4        SKPOIN*CHAN

12462  34 2461    2124                JP*LOK-1
12463  55 2456    2125                IJP*T$PT13
12464  00 0000    2126     T$PT3      0*
12465  00 0000    2127     T$PT4      0*
12466  00 0000    2130     T$PT5      0*
12467  00 0077    2131     T$PT6      77*
12470  00 0136    2132     T$PT61     0*136
12471  00 0000    2133     T$PT11     0*

12472  00 0000    2134     CONVER     0*
12473  42 2522    2135                STRB*COUNTR
12474  36 0000    2136                ENTBK*0
12475  71 0040    2137                ADDALK*40          ADD ASCII BIAS
12476  02 2525    2140                CMAL*M136          CR-LF
12477  63 2504    2141                JPNOT*LOK+5        NO
12500  70 0004    2142                ENTALK*4           CR
12501  76 2440    2143                RJP*T$PT7

12502  70 0003    2144                ENTALK*3           LF
12503  34 2520    2145                JP*CONV3
12504  44 2526    2146                STRAL*MDUM
12505  13 2527    2147     CONV1      ENTALB*CONST
12506  52 2523    2150                SLCL*CT177
12507  50 4211    2151                RSHAL*9D
12510  02 2526    2152                CMAL*MDUM
12511  61 2516    2153                JPEQ*CONV2

12512  56 2524    2154                BSK*M76
12513  34 2505    2155                JP*CONV1
12514  12 2526    2156                ENTAL*MDUM
```

```
12515  50 5640    2157            STOP*40
12516  13 2527    2160    CONV2   ENTALB*CONST
12517  52 2467    2161            SLCL*T$PT6

12520  32 2522    2162    CONV3   ENTB*COUNTR
12521  55 2472    2163            IJP*CONVER
12522  00 0000    2164    COUNTR  0*
12523  17 7000    2165    CT177   177000*
12524  00 0100    2166    M76     000100*
12525  00 0136    2167    M136    000136*
12526  00 0000    2170    MDUM    0*
12527  10 1006    2171    CONST   101006*

12530  10 2007    2172            102007*
12531  10 3010    2173            103010*
12532  10 4011    2174            104011*
12533  10 5012    2175            105012*
12534  10 6013    2176            106013*
12535  10 7014    2177            107014*
12536  11 0015    2200            110015*
12537  11 1016    2201            111016*

12540  11 2017    2202            112017*
12541  11 3020    2203            113020*
12542  11 4021    2204            114021*
12543  11 5022    2205            115022*
12544  11 6023    2206            116023*
12545  11 7024    2207            117024*
12546  12 0025    2210            120025*
12547  12 1026    2211            121026*

12550  12 2027    2212            122027*
12551  12 3030    2213            123030*
12552  12 4031    2214            124031*
12553  12 5032    2215            125032*
12554  12 6033    2216            126033*
12555  12 7034    2217            127034*
12556  13 0035    2220            130035*
12557  13 1036    2221            131036*

12560  13 2037    2222            132037*
```

12561	01 5004	2223	015004*
12562	01 2003	2224	012003*
12563	13 7076	2225	137076*
12564	05 2050	2226	052050*
12565	04 7072	2227	047072*
12566	05 6075	2230	056075*
12567	04 0005	2231	040005*
12570	17 7077	2232	177077*
12571	06 0060	2233	060060*
12572	06 1061	2234	061061*
12573	06 2062	2235	062062*
12574	06 3063	2236	063063*
12575	06 4064	2237	064064*
12576	06 5065	2240	065065*
12577	06 6066	2241	066066*
12600	06 7067	2242	067067*
12601	07 0070	2243	070070*
12602	07 1071	2244	071071*
12603	05 0051	2245	050051*
12604	05 1040	2246	051040*
12605	05 3042	2247	053042*
12606	05 4056	2250	054056*
12607	05 5041	2251	055041*
12610	05 7074	2252	057074*
12611	07 2053	2253	072053*
12612	07 3073	2254	073073*
12613	07 4043	2255	074043*
12614	07 5044	2256	075044*
12615	07 6045	2257	076045*
12616	07 7054	2260	077054*
12617	10 0057	2261	100057*
12620	04 4047	2262	044047*
12621	05 2050	2263	052050*
12622	13 5046	2264	135046*
12623	13 4001	2265	134001*
12624	04 5002	2266	045002*
12625	04 2052	2267	042052*

```
12626  04 1055   2270                041055*
12627  13 6050   2271                136050*
                 2272                REMARK*TYPC FOR 1232 OR 1532
12630  00 0000   2273   TYPC         0*
12631  75 2721   2274                STRSR*T$PC20
12632  46 2723   2275                STRAU*T$PC12

12633  44 2724   2276                STRAL*T$PC13
12634  42 2725   2277                STRB*T$PC14
12635  70 0003   2300                ENTALK*3
12636  76 2752   2301                RJP*T$PC24          ENABLE KEYBOARD
12637  32 2630   2302   T$PC1        ENTB*TYPC           ADVANCE EXIT ADDR
12640  37 0001   2303                ENTBKB*1
12641  42 2630   2304                STRB*TYPC
12642  50 7310   2305                ENTSR*10

12643  11 0000   2306                ENTAUB*0            NEXT CODE WORD TO AU
12644  50 7300   2307                ENTSR*0             CLR SR ACTIVE
12645  70 0000   2310                ENTALK*0
12646  50 4703   2311                LSHA*3              CODE DIGIT TO AL
12647  61 2713   2312                JPALZ*T$PC11        ALL DONE IF ZERO
12650  44 2726   2313                STRAL*T$PC15        TEMP STORE
12651  32 2726   2314                ENTB*T$PC15
12652  35 2652   2315   T$PC2        JPB*T$PC2

12653  34 2670   2316                JP*T$PC3            KYBD COMMAND
12654  34 2702   2317                JP*T$PC4            A
12655  34 2706   2320                JP*T$PC6            A UPPER
12656  34 2704   2321                JP*T$PC5            A LOWER
12657  34 2710   2322                JP*T$PC7            B
12660  70 0000   2323                ENTALK*0            Y
12661  50 4717   2324                LSHA*17
12662  44 2726   2325                STRAL*T$PC15

12663  32 2726   2326                ENTB*T$PC15
12664  50 7310   2327                ENTSR*10
12665  11 0000   2330                ENTAUB*0            CONTENTS OF Y
12666  50 7300   2331                ENTSR*0
12667  34 2711   2332                JP*T$PC10
12670  00 0000   2333   T$PC3        ENTALK*0
```

```
12671  50 4717   2334                LSHA*15D
12672  61 2700   2335                JPALZ*T$PCSP
12673  70 0015   2336     T$$$1      ENTALK*15
12674  76 2741   2337                RJP*T$PC21
12675  70 0012   2340     T$$$2      ENTALK*12
12676  76 2741   2341                RJP*T$PC21
12677  34 2637   2342                JP*T$PC1
12700  70 0040   2343     T$PCSP     ENTALK*40

12701  34 2676   2344                JP*LOK-3
12702  10 2723   2345     T$PC4      ENTAU*T$PC12
12703  76 2727   2346                RJP*T$PC16
12704  10 2724   2347     T$PC5      ENTAU*T$PC13
12705  34 2711   2350                JP*T$PC10
12706  10 2723   2351     T$PC6      ENTAU*T$PC12
12707  34 2711   2352                JP*T$PC10
12710  10 2725   2353     T$PC7      ENTAU*T$PC14

12711  76 2727   2354     T$PC10     RJP*T$PC16
12712  34 2637   2355                JP*T$PC1
12713  70 0001   2356     T$PC11     ENTALK*1
12714  14 2630   2357                ADDAL*TYPC
12715  44 2630   2360                STRAL*TYPC
12716  10 2723   2361                ENTAU*T$PC12
12717  12 2724   2362                ENTAL*T$PC13
12720  32 2725   2363                ENTB*T$PC14

12721  50 7300   2364     T$PC20     ENTSR*0
12722  55 2630   2365                IJP*TYPC
12723  00 0000   2366     T$PC12     0*
12724  00 0000   2367     T$PC13     0*
12725  00 0000   2370     T$PC14     0*
12726  00 0000   2371     T$PC15     0*
12727  00 0000   2372     T$PC16     0*
12730  70 0005   2373                ENTALK*5

12731  44 2726   2374                STRAL*T$PC15
12732  70 0000   2375     T$PC17     ENTALK*0
12733  50 4703   2376                LSHA*3
12734  71 0060   2377                ADDALK*60
```

CONV 6 OCT DIGITS TO KYBD CD-TYPE

CONVERT-TYPE 6 OCT DIGITS

MAKE FIELD DATA DIGIT

```
12735  76 2741    2400                RJP*T$PC21                  TYPE IT
12736  57 2726    2401                ISK*T$PC15                  ARE 6 TYPED

12737  34 2732    2402                JP*T$PC17                   NO
12740  55 2727    2403                IJP*T$PC16                  YES
12741  00 0000    2404    T$PC21      0*                          SEND KYBD CODE IN AL
12742  76 2762    2405                RJP*T$PC25
12743  44 2751    2406                STRAL*T$PC23
12744  50 1200    2407    T$$1        BUFOUT*CHAN*AD*1*T$PC23
12745  01 2751
12746  01 2751

12747  76 2762    2410                RJP*T$PC25
12750  55 2741    2411                IJP*T$PC21
12751  00 0000    2412    T$PC23      0*                          DO KYBD FCT CODE
12752  00 0000    2413    T$PC24      0*
12753  76 2762    2414                RJP*T$PC25
12754  44 2751    2415                STRAL*T$PC23
12755  50 1300    2416    T$$2        EXFCT*CHAN*AD*1*T$PC23
12756  01 2751

12757  01 2751
12760  76 2762    2417                RJP*T$PC25
12761  55 2752    2420                IJP*T$PC24
12762  00 0000    2421    T$PC25      0*                          WAIT ON ACT FCT-DATA BUFS
12763  50 2300    2422    T$$3        SKPFIN*CHAN
12764  34 2763    2423                JP*LOK-1
12765  50 2200    2424    T$$4        SKPOIN*CHAN
12766  34 2765    2425                JP*LOK-1

12767  55 2762    2426                IJP*T$PC25
                  2427                REMARK*INSERT SELECTED I/O CHANNEL NUMBER
                  2430                REMARK*IN ALL I/O COMMANDS.
                  2431                REMARK*MODIFY FOR 1232/1532 INTERCHANGE
12770  00 0000    2432    TYPE        0*
12771  12 2366    2433                ENTAL*ALPARM                INITIAL AL INPUT PARAMETER
12772  50 4203    2434                RSHAL*3                     CHANNEL NO. TO BITS 5-0
12773  52 2371    2435                SLCL*K1                     000037

12774  10 2372    2436                ENTAU*K2                    777700
12775  14 2443    2437                SLSU*T$1
```

```
12776  44 2443    2440                STRAL*T$1
12777  04 2452    2441                SLSU*T$2
13000  44 2452    2442                STRAL*T$2
13001  04 2457    2443                SLSU*T$3

13002  44 2457    2444                STRAL*T$3
13003  04 2461    2445                SLSU*T$4
13004  44 2461    2446                STRAL*T$4
13005  04 2744    2447                SLSU*T$$1
13006  44 2744    2450                STRAL*T$$1
13007  04 2755    2451                SLSU*T$$2
13010  44 2755    2452                STRAL*T$$2
13011  04 2763    2453                SLSU*T$$3

13012  44 2763    2454                STRAL*T$$3
13013  04 2765    2455                SLSU*T$$4
13014  44 2765    2456                STRAL*T$$4
13015  12 2366    2457                ENTAL*ALPARM                INITIAL AL INPUT PARAMETER
13016  50 4612    2460                LSHAL*10D                   1232/1532 BIT TO BIT 0
13017  52 2373    2461                SLCL*K3                     000001
13020  74 3021    2462                STRADR*LOK+1
13021  36 0000    2463                ENTBK*0                     B IS 0 FOR 1232, 1 FOR 1532

13022  13 3033    2464                ENTALB*TYPE1                TABLE OF MODIFIED INSTRUCTIONS
13023  44 2416    2465                STRAL*RNOOP
13024  13 3035    2466                ENTALB*TYPE1+2
13025  44 2673    2467                STRAL*T$$$1
13026  13 3037    2470                ENTALB*TYPE1+4
13027  44 2675    2471                STRAL*T$$$2
13030  13 3041    2472                ENTALB*TYPE1+6
13031  44 2700    2473                STRAL*T$PCSP

13032  55 2770    2474                IJP*TYPE
                  2475                REMARK*TABLE OF 1232/1532 MODIFIED INSTRUCTIONS
13033  76 2472    2476    TYPE1       RJP*CONVER                          1232
13034  71 0040    2477                ADDALK*40                           1532
13035  70 0004    2500                ENTALK*4                            1232
13036  70 0015    2501                ENTALK*15                           1532
13037  70 0003    2502                ENTALK*3                            1232
13040  70 0012    2503                ENTALK*12                           1532
```

```
13041  70 0005    2504                ENTALK*05                    1232
13042  70 0040    2505                ENTALK*40                    1532
                  2506                REMARK*MODIFY OUTPUT AND EXF BUFFERS FOR N+1 TERMINATION
13043  00 0000    2507     IOSET      0*
13044  12 2445    2510                ENTAL*T$1+2
13045  71 0001    2511                ADDALK*1

13046  44 2444    2512                STRAL*T$1+1
13047  12 2454    2513                ENTAL*T$2+2
13050  71 0001    2514                ADDALK*1
13051  44 2453    2515                STRAL*T$2+1
13052  12 2746    2516                ENTAL*T$$1+2
13053  71 0001    2517                ADDALK*1
13054  44 2745    2520                STRAL*T$$1+1
13055  12 2757    2521                ENTAL*T$$2+2

13056  71 0001    2522                ADDALK*1
13057  44 2756    2523                STRAL*T$$2+1
13060  55 3043    2524                IJP*IOSET
                  2525                ENDATA*
```

LABELS AND ADDRESSES

ADD	11661	ADD1	11701	ADER	11237	ADER1	11262	ADER10	11311
ADER11	11343	ADER2	11370	ADER3	11271	ADER31	11424	ADER32	11425
ADER33	11426	ADER4	11400	ALPARM	12366	ALT	10717	ALT1	10747
ARITH	10300	ARITH1	10321	ATAB	11712	AUT	10650	AUT1	10707
COMA	01500	CONST	12527	CONV1	12505	CONV2	12516	CONV3	12520
CONVER	12472	COUNTR	12522	CHAN	00000	CNT	10360	CPA1	11616
CPAL	11530	CPAL1	11535	CPAU1	11563	CT177	12523	DIV	11747
DIV1	11774	DIV2	12035	DT1	12270	DT2	12311	DT3	12267
DT4	12332	DTAB	12052	DTAB1	12053	DTAB2	12054	DTAB3	12055
DTAB4	12056	DVT	12057	DVT1	12062	DVT10	12262	DVT11	12263
DVT12	12264	DVT13	12265	DVT14	12266	EFLG	10363	ERM1	10435
ERMSG	10364	EXEC	10526	FLAG	12353	IOSET	13043	INDEX	12127
INDEX1	12130	INDEX2	12131	INST1	12126	INT1A	01450	INT1B	01462
INT1C	01463	INT1D	01464	K1	12371	K2	12372	K3	12373
KT	11450	KT1	11457	KT2	11521	LIMIT	10452	LIMIT1	10456
LSA	11053	LSA1	11075	LSAL	10757	LSAL1	11013	LSAU	11022
LSAU1	11044	M136	12525	M76	12524	MDUM	12526	MRACK	10322
MRACK1	10346	MTEST	10465	MTITLE	10440	MUL	11716	MUL1	11735
MUL3	11745	MUL4	11746	NOCI	10413	NOTYPE	10464	NYMB	10361
PAT	10437	PRT	10362	PTN1	12367	PTN2	12370	RECYL	10351
RNOOP	12416	RSA	11172	RSA1	11227	RSAL	11105	RSAL1	11131
RSAU	11140	RSAU1	11163	SHWD1	12124	SHWD2	12125	T$$$1	12673
T$$$2	12675	T$$1	12744	T$$2	12755	T$$3	12763	T$$4	12765
T$1	12443	T$2	12452	T$3	12457	T$4	12461	T$PC1	12637
T$PC10	12711	T$PC11	12713	T$PC12	12723	T$PC13	12724	T$PC14	12725
T$PC15	12726	T$PC16	12727	T$PC17	12732	T$PC2	12652	T$PC20	12721
T$PC21	12741	T$PC23	12751	T$PC24	12752	T$PC25	12762	T$PC3	12670
T$PC4	12702	T$PC5	12704	T$PC6	12706	T$PC7	12710	T$PCSP	12700
T$PT1	12403	T$PT11	12471	T$PT12	12447	T$PT13	12456	T$PT2	12412
T$PT20	12436	T$PT21	12425	T$PT22	12427	T$PT3	12464	T$PT4	12465
T$PT5	12466	T$PT6	12467	T$PT61	12470	T$PT7	12440	TAB3	12152
TAB4	12216	TAB5	12240	TADD	10516	TADER	10510	TALT	10502
TAUT	10500	TCPAL	10514	TDIV	10522	TDVT	10524	TITLE1	10442
TITLE2	10446	TKT	10512	TLSAL	10504	TMUL	10520	TPAT1	12134

TPAT2	12142	TPAT3	12150	TPCK	12132	TPCK1	12133	TRSAL	10506
TWD1	12122	TWD2	12123	TYPC	12630	TYPE	12770	TYPE1	13033
TYPT	12374								